

What is claimed is:

1. A storage medium for storing a compiler to compile a source program in an object-oriented programming language, said compiler comprising the steps of:

if a class-type variable is contained in an execution statement to be executed in parallel or in a parallelization directive, generating an instruction to call a construction instruction routine for an object of the class before said execution statement to be executed in parallel or an execution statement to be parallelized by said parallelization directive; and

if a class-type variable is contained in an execution statement to be executed in parallel or in a parallelization directive, generating an instruction to call a destruction instruction routine for an object of the class after said execution statement to be executed in parallel or an execution statement to be parallelized by said parallelization directive.

2. The storage medium according to claim 1, said compiler further comprising the steps of:

when generating an intermediate language from said source program,

allocating a construction and destruction instruction information region in the intermediate language of the class, if a class variable which has possibility to be executed in parallel is specified; and

storing into said construction and destruction instruction information region, information concerning a construction instruction routine and a destruction instruction routine of an object of the class, and

wherein information stored in said construction and destruction instruction information region is used in said steps of generating an instruction to call a construction instruction routine and

generating an instruction to call a destruction instruction routine.

3. The storage medium according to claim 2, wherein said construction and destruction instruction information region is structured so as to be accessed from the type information of said class.

4. The storage medium according to claim 1, wherein said compiler is a compiler for a parallel computer with shared memory.

5. A compiling apparatus for compiling a source program in an object-oriented programming language, comprising:

means for, if a class-type variable is contained in an execution statement to be executed in parallel or in a parallelization directive, generating an instruction to call a construction instruction routine for an object of the class before said execution statement to be executed in parallel or an execution statement to be parallelized by said parallelization directive; and

means for, if a class-type variable is contained in an execution statement to be executed in parallel or in a parallelization directive, generating an instruction to call a destruction instruction routine for an object of the class after said execution statement to be executed in parallel or an execution statement to be parallelized by said parallelization directive.

6. The compiling apparatus according to claim 5, further comprising:

means for allocating a construction and destruction instruction information region in the intermediate language of the class during generation of an intermediate language from said source program, if a class variable, which has possibility to be executed in parallel is specified; and

means for storing into said construction and destruction instruction information region, information concerning a construction instruction routine and a destruction instruction routine of an object of the class, and

wherein information stored in said construction and destruction instruction information region is used by said means for generating an instruction to call a construction instruction routine and said means for generating an instruction to call a destruction instruction routine.

7. The compiling apparatus according to claim 6, wherein said construction and destruction instruction information region is structured so as to be accessed from the type information of said class.

8. The compiling apparatus according to claim 1, wherein said compiling apparatus is a compiling apparatus for a parallel computer with shared memory.

9. A compiling method for compiling a source program in an object-oriented programming language, said compiling method comprising the steps of:

if a class-type variable is contained in an execution statement to be executed in parallel or in a parallelization directive, generating an instruction to call a construction instruction routine for an object of the class before said execution statement to be executed in parallel or an execution statement to be parallelized by said parallelization directive; and

if a class-type variable is contained in an execution statement to be executed in parallel or in a parallelization directive, generating an instruction to call a destruction instruction routine for an object of the class after said execution statement to be executed in parallel or an execution statement to be parallelized by said parallelization directive.

10. The compiling method according to claim 1, further comprising the steps of:

when generating an intermediate language from said source program,

allocating a construction and destruction instruction information region in the intermediate language of the class, if a class variable which has possibility to be executed in parallel is specified; and

storing into said construction and destruction instruction information region, information concerning a construction instruction routine and a destruction instruction routine of an object of the class, and

wherein information stored in said construction and destruction instruction information region is used in said steps of generating an instruction to call a construction instruction routine and

generating an instruction to call a destruction instruction routine.

11. The compiling method according to claim 10, wherein said construction and destruction instruction information region is structured so as to be accessed from the type information of said class.

12. The compiling method according to claim 9, wherein said compiling method is a compiling method for a parallel computer with shared memory.

0976087 020701
T04020